# CV-SALTS Overview & Improving Drinking Water


CV SALTS
Central Valley Salinity Alternatives for Long-term Sustainability

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# Overview

CV-SALTS is in the home stretch of a 10-year stakeholder effort

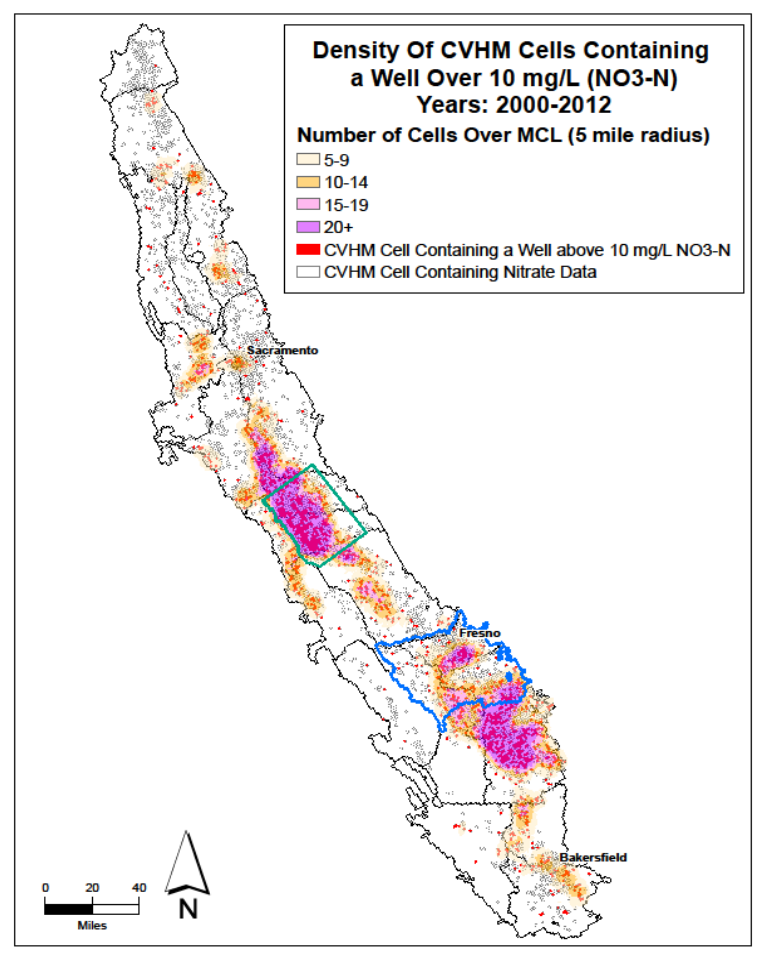
- State, Federal, local agencies, discharger community, EJ and DAC representatives
- Comprehensive Salt and Nitrate Management Plan
- Environmental and Economic Sustainability

# Central Valley Salt Issues


More salt enters the region than leaves

- Impacts (current/legacy)
  - Agricultural Production
  - Drinking Water Supplies
- Economic Cost
  - Direct Annual: $1.5 Billion
  - Statewide annual income impact: $3.0 Billion
- Diverse Sources

# Central Valley Nitrate Issues




- Legacy/Current Conditions
- Direct Impacts
  - Drinking Water Supplies
- Economic Costs
  - Treatment
  - Alternate Supply
- Diverse Sources

# SNMP Implementation Strategy
## Two Primary Goals

Assure Safe Drinking Water

*and*

Sustain the Agricultural Economy

*Either we achieve both or get neither: our focus needs to be on solving each other's problems*

# SNMP Implementation Strategy
## Two Primary Goals

- Given these goals, the SNMP must provide a…
  - Mechanism to implement alternative water supplies
  - Means to legally authorize discharges from modern farming practices
  - Strategy to prevent further water quality degradation
  - Implementable plan to restore degraded groundwater where it is reasonably feasible and practicable to do so

# Regional Board Existing Regulation

- Existing options
  - Strict compliance with water quality standards, OR
  - Prohibit the discharge
- Enforcement authority: provide replacement water
  - Cleanup and Abatement Orders do not authorize the discharge to continue
  - Without a permit *that can be complied with*, commercial ag cannot continue

# SNMP New Tools and Options

Alternative Compliance Program

- Specific Conditions to allocate assimilative capacity or grant discharge exceptions
  - Phase 1: Safe drinking water supplies
    - Short and long-term solutions
  - Phase 2: Achieve salt/nitrate balance
    - On-going: timeframe/costs vary
  - Phase 3: Restore Groundwater Quality
    - Where feasible and practicable

# SNMP Implementation Strategy
## How the SNMP Will Work

Form Local Management Zones

- Discharger/Stakeholder Proposed
- Three Phases/Risk Based
  - Safe Drinking Water
  - Balance
  - Restoration
- Local Solutions
- Economy of Scale
- Dovetails with SGMA

# SNMP Implementation Strategy
## How the SNMP Will Work

- All existing regulatory options remain (WDRs, NOVs, TSOs, CAOs, Prohibitions), but…
- Additional tools and options to help solve problems
  - Incentivize local solutions and encourage early implementation
  - Regional Board with State Board oversight will decide when and where to apply options

# Services Provided/Accomplishments

Data Compilation and Modeling

- ✓ Conceptual Model
- ✓ GIS Beneficial Use/ AGR Zone Efforts

Beneficial Use

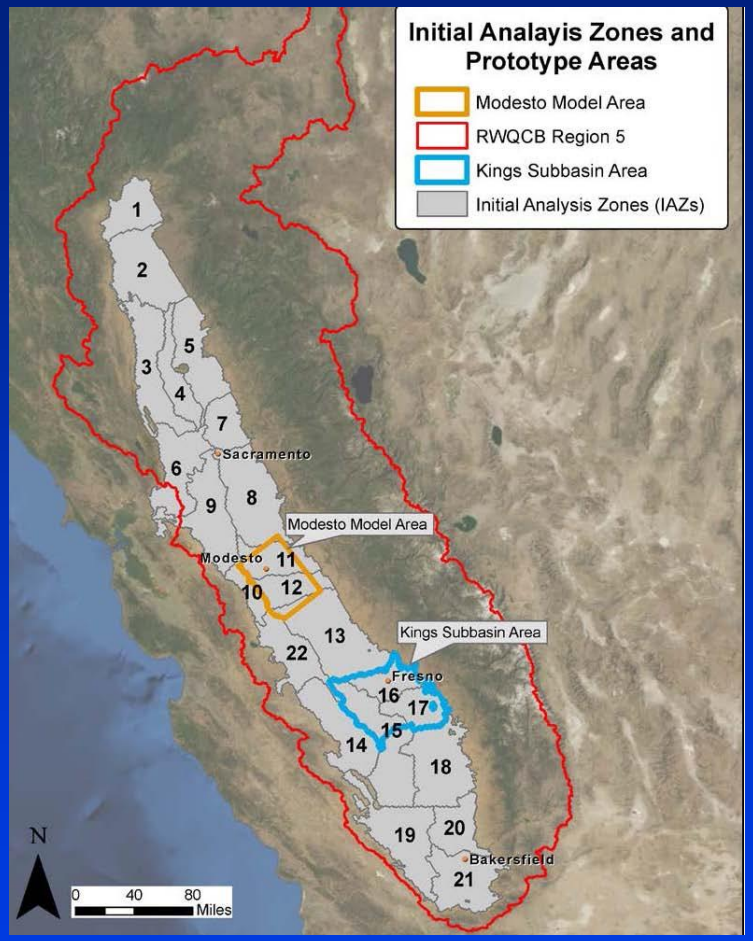
- ➢ Tulare Lake Groundwater
- ➢ MUN in Ag Dominated Water bodies

Water Quality Objectives

- ✓ Aquatic Life
- ✓ Stock Watering
- ✓ Salt Effects on Irrigated Ag
- ✓ Salt Effects on MUN
- ➢ Lower San Joaquin River

Implementation

- ➢ SSALTS (Accumulation/Transport)
- ➢ NIMS (Nitrate Management Strategy
- ➢ Alternate Compliance Strategy (Management Zone)

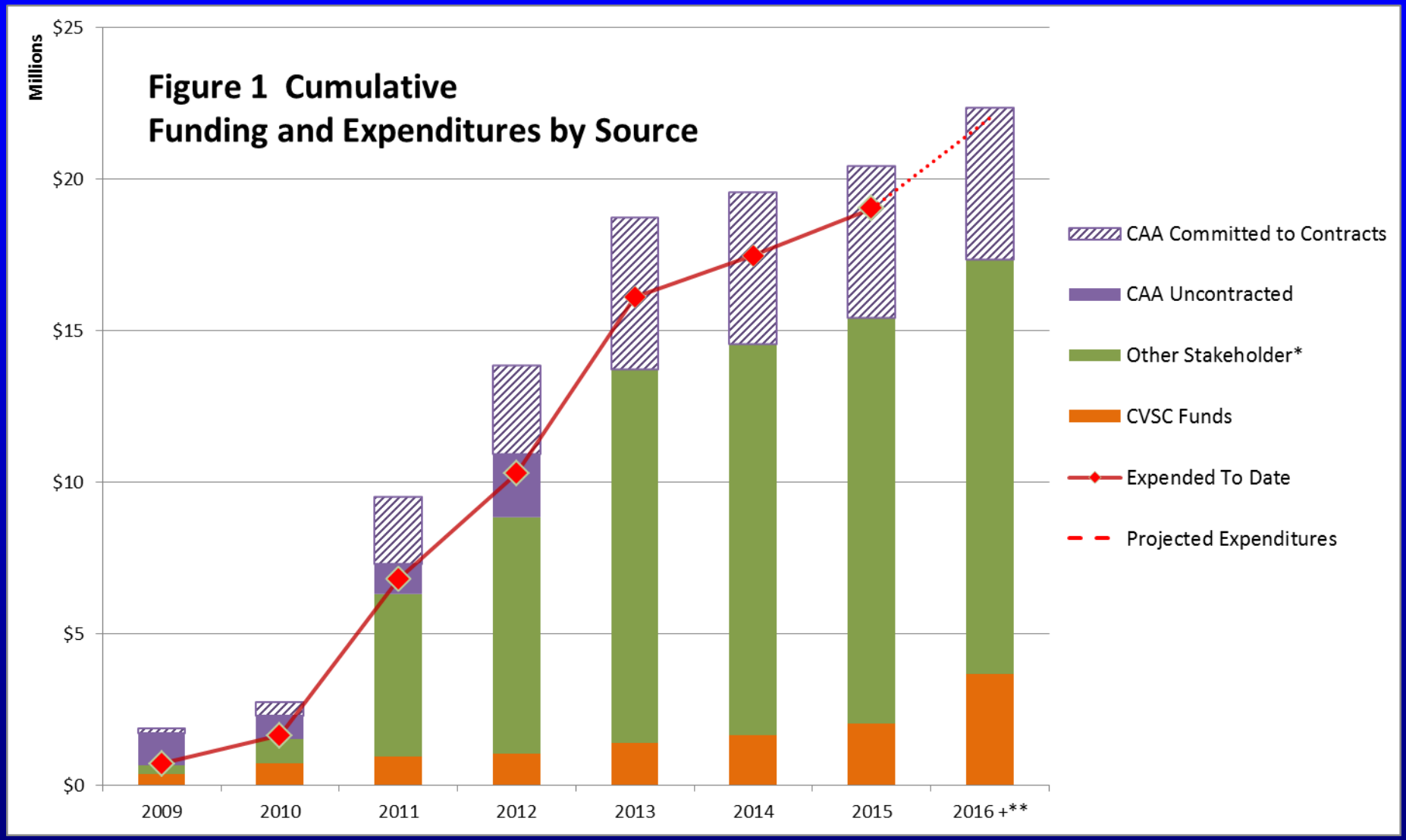


# Regional Board Regulatory Priorities Next Steps

- In June, the Central Valley Water Board will consider a big package of policy ideas and recommendations
- If we receive the Board's endorsement, we will formalize those ideas through formal Basin Plan amendments
- Not simple, but we are working to be sure it is implementable


Questions?

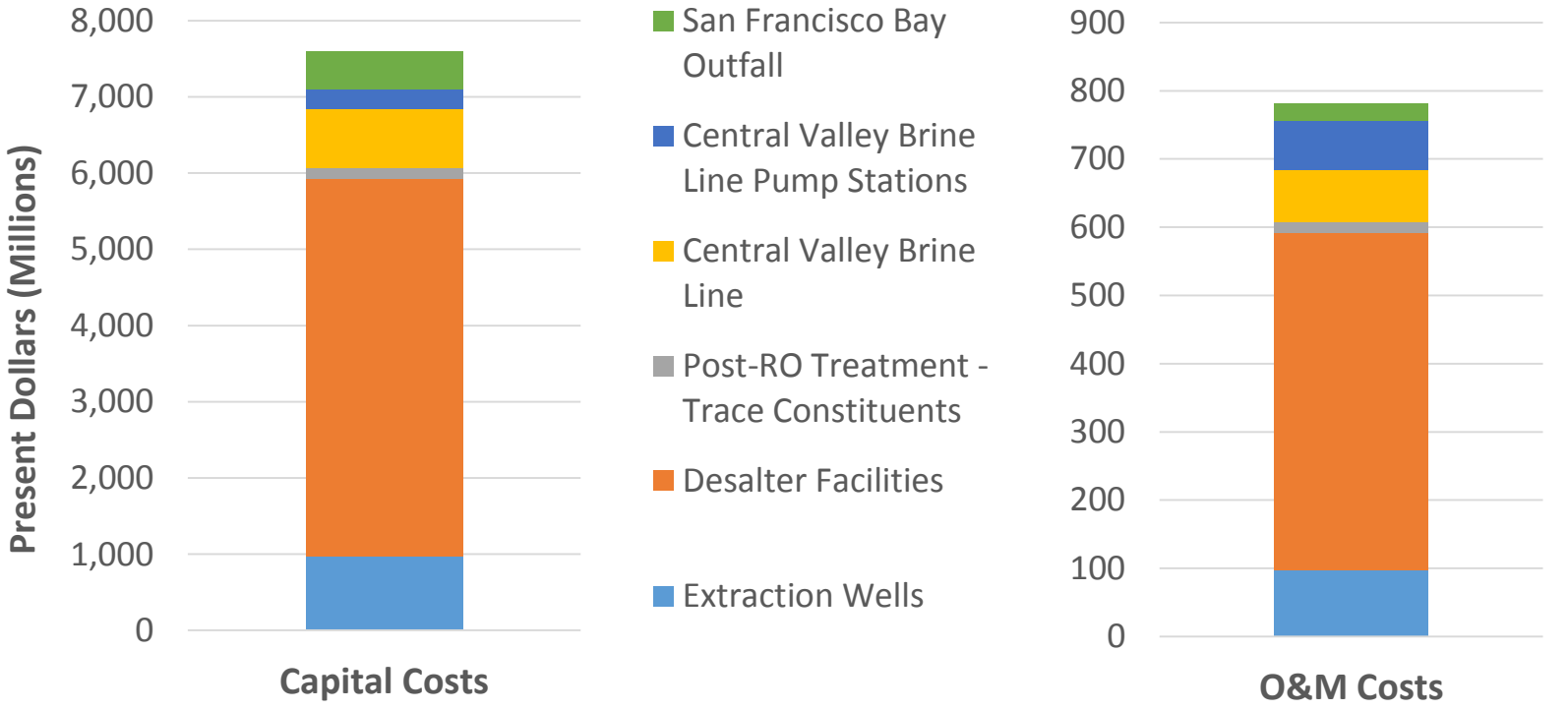
# Cumulative Funding and Costs



# Salt Management Alternatives (SSALTS)

- Central to all evaluated salt management alternatives is a regulated Central Valley brine line
- Concept level analysis completed
  - Alternative Central Valley routes
  - Preliminary Brine Discharge Alternatives
    - Via existing East Bay Municipal Utility District outfall
    - Via an alternative outfall to San Francisco Bay
  - Concept-level cost estimate – Capital and O&M

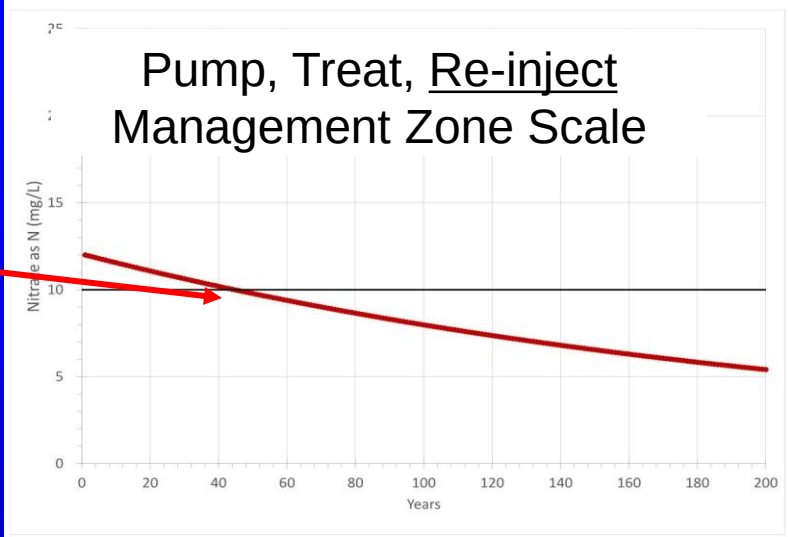
# Conceptual Level Costs for Regulated Brine Line Alternative – Outfall to San Francisco Bay



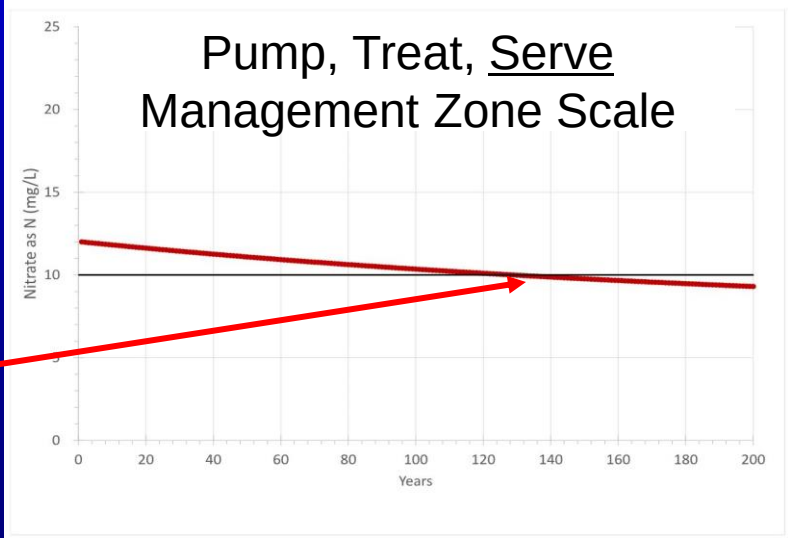

Implementation of this alternative would yield product water with an estimated value of $909M/year

# Nitrate Management Alternatives Nitrate Implementation Measures Study (NIMS)

| Management Zone Scale: Pump, Treat & Reinject. Ambient nitrate at 12 mg/L; Treat to 1 mg/L | |
|---|---|
| < 10 mg/L | 40 years |
| < 8 mg/L | 90 years |
| < 5 mg/L | 210 years |
| < 4 mg/L | 220 years |




| Management Zone Scale: Pump, Treat & Serve. Ambient nitrate at 12 mg/L; Treat to meet potable water requirements | |
|---|---|
| < 10 mg/L | 130 years |



# SNMP Implementation Strategy
## SNMP Development Process

- The CV-SALTS process has been incredibly hard because it is complex and our goals are so ambitious
  - We are dealing with salt and nitrate, surface water and groundwater, point and non-point sources and existing and legacy loads
- Everyone understands that meeting our goals to enure a drinking water supply while sustaining our agricultural economy depends on us getting this done

# Regional Board Regulatory Priorities Defining Success

- We have acknowledged significant implementation realities, the phased and prioritized implementation strategy needed will have a long timeline associated with success
  - First, focus resources on providing safe drinking water
  - Second, continue BPTC to limit further degradation and assure long-term sustainability
  - Third, implement large-scale projects to restore groundwater quality to the to best of our ability.